

USSR

UDC 547.831+661.52

SHEYNKMAN, A. K., PRILEPSKAYA, A. N., KUCHERENKO, A. P., BARANOV, S. N.

"Direction of Quaternization of Six-Membered Nitride Heterocycles Containing the Dialkylaminophenyl Radical"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol XXXVIII, No 6, 1972, pp 589-594

Abstract: It is known that the cause of the chromaticity of pyridine and benzo-pyridine salts is frequently the formation of complexes with charge transfer [E. M. Kosover, Novyye problemy fizicheskoy organicheskoy khimii, Mir Press, Moscow, 36-94, 1969]. Accordingly, the conclusions of D. I. Gamaise, et al. [Chem. and Ind., 1645, 1967] were checked on various six-membered heterocycles containing the n-dialkylaminophenyl radicals in the  $\alpha$  and  $\gamma$  positions. Thus, a study was made of the direction of quaternization under various conditions of bases (I) and also 2-n-dialkylaminophenyl quinolines (II), 2-(1'-alkyl-1',2',3',4'-tetrahydroquinolinyl-6')-quinolines (III) and 9-n-dialkylaminophenylacridines (IV). In the reaction of 2-n-dialkylaminophenylquinolines and their analogs with alkyl halides at 80-150°, the following quaternary salts were obtained: 4-(n-dialkylaminophenyl)-pyridinyl, 2(n-dialkylaminophenyl)quinolinyl, 1-methy-6-(quinolyl-2')-1, 2, 3, 4-tetrahydroquinolinyl, 9-n-(dialkylaminophenylacridinyl). Substitutions are presented for the ring R' and the extraring nitrogen atom R and the anions X. Synthesis procedures, physical and chemical characteristics and yields are presented for eight compounds.

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UDC 547.241+547.835+547.821+547.558.1

USSR

SHEYNKMAN, A. K., SAMOYLENKO, G. V., and BARANOV, S. N., Donetsk State University, Donetsk Department of Physical and Organic Chemistry of the Institute of Physical Chemistry, Academy of Sciences Ukrainian SSR

"Arbuzov Rearrangement Under the Action of Heteroaromatic Cations"

Moscow, Doklady Akademii Nauk SSSR, Vol 196, No 6, 1971, pp 1,377-1,378

Abstract: Recently D. REDMORE suggested the synthesis of phosphonic acids of the acridine series by the interaction of quaternary acridinium salts with diethylsodium phosphate by the Michaelis-Becker method. At the same time, the authors of the present article, which is the twelfth in the series "Reactions of Cyclammonium Cations," suggested a more general method for the synthesis of heterocyclic phosphonic acids by the reaction of trialkyl phosphites with N-acyl salts of six-membered nitrogen heterocycles. This reaction proved especially convenient with protonic salts of some six-membered nitrogen heterocycles. Thus, reaction with acridine hydrochloride yielded not only 9-acridinylphosphonic acid, but also dialkyl-9,10-dihydroacridine-9-phosphonates. Dehydrogenation of the latter gives dialkyl-acridine-9-phosphonates and then, by acid hydrolysis, acridinyl-9-phosphonic acid. The reaction is evidently common to all heteroaromatic cations.

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172 009 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--REACTIONS OF CYCLAMMIUM CATIONS. VII. REACTION OF ACRIDINE WITH  
ACTIVATED AROMATIC COMPOUNDS IN THE PRESENCE OF AN ACYLATING AGENT -U-  
AUTHOR-(03)-SHEYNKHAN, A.K., POTASHNIKOVA, S.G., BARANOV, S.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ORG., KHIM. 1970, 6(3) 614-19  
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CHEMICAL SYNTHESIS  
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2/2 009 UNCLASSIFIED PROCESSING DATE--02JCT70  
 CIRC ACCESSION NO--AP0112419  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF  
 10, METHYL, 9, MORPHOLINO, 9, 10, DIHYDROACRIDINE WITH ACRIDINIUM METHIODIDE  
 GAVE STABLE 9, MORPHOLINOACRIDINIUM METHIODIDE AND N, METHYLACRIDINE.  
 THIS HYDRIDE TRANSFER REACTION SERVED AS A MODEL FOR A NEW SYNTHESIS OF  
 9, (R, SUBSTITUTED), ACRIDINES (1). THE REACTION OF ACRIDINE WITH A MIXT.  
 OF RH AND R PRIME1 COCL GAVE 39-83PERCENT I AND N (R PRIME1 CO  
 SUBSTITUTED) ACRIDINES (R GIVEN): P, ME SUB2 NC SUB6 + SUB4, P, ET SUB2  
 NC SUB6 H SUB4, P, MEETNC SUB6 H SUB4, P, (PH CH SUB2) SUB2 NC SUB6 H  
 SUB4, P, ME(PHCH SUB2)HC SUB6 H SUB4, 1, METHYL, 2, 3, DIHYDRO, 5, INDOLINYL,  
 1, METHYL, 1, 2, 3, 4, TETRAHYDRO, 6, QUINOLINYL, 1, ETHYL, 2, METHYL  
 1, 2, 3, 4, TETRAHYDRO, 6, QUINOLINYL,  
 1, ETHYL, 2, METHYL, 1, 2, 3, 4, TETRAHYDRO, 6, QUINOLINYL, AND  
 P, MORPHOLINO, PHENYL.

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Acc. Nr:

AP0045141

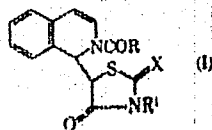
Abstracting Service:

CHEMICAL ABST.

Ref. Code:

UR0409

90355h Reaction of N-acylisoquinolinium salts in situ with thiazolidones. Shelnkman, A. K.; Deikalo, A. A.; Baranov, S. N. (Donetsk Gos. Univ., Donetsk, USSR). *Khim. Geterotsikl. Soedin.* 1970, (1), 130-1 (Russ). Heating 3-phenyl-5-(2-benzoyl-1,2-dihydro-1-isoquinolyl)-2,4-thiazolidinedione, m. 189-90°, with KOH gave 2-benzoyl-1,2-dihydro-1-isoquinolylthioglycolic acid, m. 95.6°. Reaction of isoquinoline with various thiazolidinones in the presence of acyl halides gave 1-acyl-1,2-dihydroisoquinolyl thiazolidinones (I) (R, R', X and m.p. given): Ph, Et, S,



162.4-3°; Ph, Ph, NPh, 212.5-13°; Ph, Ph, S, 211-12°.

G. M. Kosolapoff

REEL/FRAME  
19780041

USSR

UDC: 531.787.7

PODGOYETSKIY, M. L., SHVARTSER, V. I., SHEYNKERMANN, E. Z., MOSKVINA, M. A.,  
MAR'YANOVSKIY, Ya. M., LIVSHITS, A. M., PROZOROV, M. A., "Tsvetmetavto-  
matika" Special Design Office

"A Pneumatic Compensation Differential Manometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzys, Tovarnyye Znaki,  
No 36, Dec 71, Author's Certificate No 322676, Division G, filed 24 Nov 69,  
published 30 Nov 71, p 138

Translation: This Author's Certificate introduces a pneumatic compensation differential manometer which contains a diaphragm measurement unit consisting of a support cushion, diaphragms, a diaphragm connector and a needle gate valve. The manometer also contains a converter which changes force to a pneumatic signal. As a distinguishing feature of the patent, The accuracy and reliability of the device are improved by making the diaphragm connector in the form of a hollow stepped cylinder with flanges for fastening the diaphragms. The needle gate valve is located in the inner cavity of the cylinder, which is equipped with a frame with contact support element.

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AA0040675-

SHEYNKMAN L.K. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241660 TRANSPORTATION OF FINELY DIVIDED CHARGE to a smelting furnace, for example by means of compressed air is characterized in that, in order to reduce consumption of compressed air (or other gas) and to facilitate operation of the furnace, the charge is transported directly into the burner by means of compressed oxygen in the amount required only for this purpose. The rate of oxygen issuing from an ejector is controlled. The proposed method differs from the pneumatic transportation system in that it does not include a dust separating system and intermediate bankers for holding the charge and the gas tube terminates at the melting unit, passing directly into the charge/oxygen vertical or horizontal burners.

15.1.68 as 1211823/22-1. L.M. BOCHKAREV et al (26.8.69)  
Bul 14/18.4.69. Class 40a. Int.Cl.C 22b.

19750277

AA0040675

AUTHORS: Bochkarev, L. M.; Bykhovskiy, Yu. A.; Makarov, D. M.;  
Paretskiy, V. M.; and Sheynkman, L. K.

19750278



Semiconductors and Transistors

USSR

UDC: 621.382.2

LUK'YANCHIKOVA, N. B., SOLGANIK, B. D., SHEYNEMAN, H. K., PROTASOV, I. I., and TROFIM, V. G.

"Excess Noise in Heterogeneous  $p\text{-Al}_x\text{Ga}_{1-x}\text{As--n-GaAs}$  Photodiodes"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1851-1855

Abstract: Stating that research on the noise characteristics of heterojunctions has been neglected, the authors present the results of experimental investigations into the low-frequency noise characteristics, at  $20\text{--}2 \cdot 10^5$  Hz, of  $p\text{-Al}_x\text{Ga}_{1-x}\text{As--n-GaAs}$  specimens. The specimens were obtained by the growth of solid solution AlAs-GaAs p-type epitaxial layers on n-GaAs substrates. The current noise spectral density was measured in darkness with the heterojunctions biased in the forward as well as inverse directions, and with the heterojunctions illuminated in the gate and photodiode modes. The measurements were conducted at temperatures of  $77\text{--}300^\circ\text{K}$  and the wavelength of the illuminating light was 0.68 microns. It was found that the current noise was in all cases much higher than the shot noise level, and that illumination of the specimens did not vary the current noise spectral density with the specimens biased

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USSR

UDC: 621.382.2

LUK'YANCHIKOVA, N. B., et al, Fizika i tekhnika poluprovodnikov,  
No 10, 1972, pp 1851-1855

in the inverse direction. Current noise spectral densities and  
families of volt-ampere characteristics of the specimens are  
plotted.

2/2

UDC 621.382.2

USSR

LUK'YANCHIKOVA, N. B., GARBAR, N. P., ~~SHEVYNMAN, M. K.~~, Institute of Semiconductors of the Ukrainian SSR Academy of Sciences, Kiev

"Excess Currents and Noise of Forward-Biased GaP Diodes"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 5, 1972, pp 869-877

Abstract: Joint studies were made of the excess currents and excess noise in GaP light diodes with forward-bias in the dark and with illumination. The excess currents observed in the initial sections of the volt-ampere characteristics of the GaP diodes which are frequently characterized by a complex  $i(u)$  function, are related to the tunnel-recombination surmounting of the p-n-junction potential barrier by the carriers. The tunnel-recombination currents do not run through the entire area of the p-n-junction but only through the basic regions the thicknesses of which are much less than its mean thickness and the total area is 1-2 orders less than the total area of the junction. The current noise observed in the excess current region is also excess, it has a spectrum of the  $1/f$  type and is generated in the space charge region of the p-n-junction while the excess forward current passes through it. In a region of higher  $U$  when the primary contribution to the total diode current is made by the thermal emission current, the observed excess noise  $1/f$  is still caused  $1/2$

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USSR

UDC 621.382.2

LUK'YANCHIKOVA, N. B., et al.: *Vizika i Tekhnika Poluprovodnikov*, Vol 6, No 5, 1972, pp 869-877

by the presence of tunneling of a small part of the carriers through the p-n-junction. The presence of a plateau in the  $S_1(i)$ -functions can arise from the fact that the investigated noise is generated only in the "special" regions of the p-n-junction or by the existence of a defined relation between the tunnel recombination and the TE current mechanisms in the investigated diodes. The effect of light on the junction reduces to a reduction in height of the potential barrier. The excess current mechanism and the mechanism of the excess noise accompanying this current do not change under the effect of light.

SSSR

UDC [537.226+537.311.33] : [537+535]

SHEYNKMAN, M. K.

"Methods for Simultaneously Investigating Photoluminescence and Photoconductivity in Semiconductors (Crystal Phosphors)"

Kiev, V sb. Elektrolyuminestsentsiya tverd. tel (Electroluminescence of Solids -- collection of works), Nauk. dumka, 1971, pp 77-91 (from RZh-Fizika, No 11, 1971, Abstract No 11E1185)

Translation: A complex of new steady-state and kinetic methods of simultaneous investigation of photoconductivity and luminescence of semiconductors (crystal phosphors) with a complex spectrum of local centers in the forbidden zone is considered. These "simultaneous" methods are based on the comparison of stationary variations of the photocurrent ( $n$ ) and the intensity of the luminescence  $W_2$  (in the various bands) with the excitation intensity  $L$  for low and high temperatures; the variations with temperature  $n(T)$  and  $W(T)$  in the regions of temperature quenching of the photocurrent and the extinction of the luminescence; the kinetics of  $n(t)$ , where  $t$  is the time, and  $W(t)$  for strong excitation

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SHEYNKMAN, M. K., Elektrolyuminestsentsiya tverd. tel, Nauk. dumka, 1971, pp 77-91

pulses in the low-temperature region. In principle, the use of these methods permits: a) measuring the most important parameters of the recombination centers (including the glow centers): the concentration, the energy positions, the cross section of majority and minority carrier capture, the portions of the recombination flow passing through the investigated centers, their filling with carriers under illumination; b) establishing the nature (radiative or nonradiative) of the capture of free carriers at the centers; c) determining the charge state of the centers; d) measuring the quantum output of the radiation in the investigated band of luminescence. The conditions for using the methods are indicated. Author's abstract.

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Crystals & Semiconductors

UDC 539.293:535.374:546.681'191.1

USSR

BELEN'KIY, G. L., KROLEVETS, N. M., LASHKAREV, V. YE., and SHEYNKMAN, M. K., Institute of Semiconductors, Academy of Sciences Ukrainian SSR, Kiev; Institute of Physics, Academy of Sciences Azerbaydzhan SSR, Baku

"Radiative Electron Capture by Sensitivity Centers in High-Resistivity GaAs"

Kiev, Ukrainskiy Fizicheskii Zhurnal, Vol 16, No 1, Jan 71, pp 128-132

Abstract: In order to elucidate the mechanism of electron capture by r-centers, the authors studied the stationary dependence of the photocurrent and luminous intensity on temperature and excitation intensity (at various temperatures) as well as optical infrared quenching of photocurrent and luminescence. High-resistivity Cu-doped ( $\sim 10^{-3}$  percent Cu) GaAs single crystals were studied. The photoluminescence spectra of typical specimens display two luminescence bands  $h\nu_m = 0.99$  eV (band 1)

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USSR

BELEN'KIY, G. L., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 1, Jan 71, pp 128-132

and  $h\nu_m = 1.23$  ev (band 2), which undergo thermal quenching due to thermal excitation of holes from the r-centers into the v-band and their subsequent capture by s-centers of fast recombination. It is shown that band 1 is due to radiative capture of electrons by the centers of slowest recombination of the majority carriers (r-centers). In the GaAs : Cu forbidden gap, and situated closer to the v-band than the r-centers are recombination m-centers  $E_{vm} \approx 0.3$  ev, which take part in the recombination at  $T \leq 120^\circ$  K. It is shown that band 2 is due to electron capture by these centers.

In order to determine whether the r-centers are due to the Cu atoms present in the crystals, the intensity of the luminescence  $h\nu_m = 1.04$  ev observed in n-type GaAs specimens undoped

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BELEN'KIY, G. L., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 1, Jan 71, pp 128-132

with Cu atoms whose Cu content, according to chemical analysis data, did not exceed  $5 \cdot 10^{-6}$  percent (electron concentration  $n = 1 \cdot 10^{15} - 1 \cdot 10^{16}$  cm<sup>-3</sup> and mobility  $\mu_n = 3 \cdot 10^{-3} - 5.5 \cdot 10^{-3}$  sq cm/v·sec in different crystals) was compared with the intensity of band 1 in the Cu-doped crystals. It was found that the luminescence band intensities of 1.04 and 0.99 eV in both types of crystals differed by a factor of three at most and the variation with temperature of the intensities of both bands and the variations of their intensities with excitation intensity were similar. This indicates that the luminescence centers responsible for the band  $h\nu_m = 1.04$  eV are not directly related to copper atoms.

The authors thank A. V. LYUBCHENKO, Candidate of Physico-mathematical Sciences, for discussing the results.

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SHEYNKMAN, V.S.

CAROL

JPRS 60590

20 November 1973

UDC 533.98+537.312.62

DISCHARGE OF A SUPERCONDUCTING STORAGE DEVICE THROUGH AN INVERTER

Article by V. V. Andrianov, V. B. Zakharenko, G. V. Fylov, B. N. Gerasimov, A. G. Sukhorukov, V. V. Sychev, V. A. Yozha, and V. S. Sheynkman reported by communication V. A. Kirillin on 16 June 1970 Moscow, Doklady Akademii Nauk SSSR, Russian, Vol 196, No 2, 1971, submitted 9 June 1970, pp. 300-303.

Superconductive inductive power storage devices are promising for use in a number of scientific and engineering fields as emergency sources of electric power, power sources for covering peak loads in power systems, and as high power electric pulse sources.

The amount of energy stored in this type of a device can be quite large. In particular, a storage device for covering peak loads of 1013 joules is discussed [1]. As compared to other possible methods, superconducting storage devices have a number of technical and economic advantages for storing relatively high energies. Frequently, a necessary condition for the efficient utilization of the storage device is the use of an inverter or for transferring the energy stored in the magnetic field to the AC network. There is no information at present on any attempts for the practical realization of a process for transferring the energy from a superconducting storage device to an electric power system.

The inversion of energy stored in a superconducting solenoid can be accomplished at a constant average value of the inverted energy as well as at a constant average value of the voltage applied to the solenoid terminals equal to the average value of the counter electromotive force of the inverter.

In the latter case, the velocity of energy transfer is maximal for a given limiting value of the voltage. It should be noted in this connection that it is possible to use the inverter as an external load when transferring the energy from large superconducting magnetic systems for various purposes (power hydromagnetic generators, electric motors, bubble chambers, etc.) in emergency situations (for example, when the normal phase appears in the winding). As compared to load resistances usually used in such cases, resonant inductor inverters are incomparably more compact, do not require high power cooling systems, etc.

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[1 - USSR - F]

Glass and Ceramics

USSR

UDC 666.1.031:532.5

SOKOLOV, A. A., SHEYNKOP, I. M., and PCHELYAKOV, K. A.

Modelirovaniye protsessov gidrodinamiki vyazkikh rasplavov )Modeling of Processes of the Hydrodynamics of Viscous Smelts), Moscow, Izdatel'stvo literatury po Stroitel'stvu, 1972, 191 pp

Translation of Annotation: The book discusses the physical bases of processes of modeling the hydrodynamics of viscous smelts. Theoretically based methods are given for the calculation of convectional and production flows. Questions are examined which concern the influence of internal sources of heat and bubbling on a viscous smelt. Several engineering tasks are presented which have been solved by the authors with the modeling method.

The book is intended for technical engineering workers in the glass manufacturing industry and also may be used by students at schools of higher education.

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Foreword

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Chapter I. Theoretical Bases of Modeling Hydrodynamic Processes of Smelts

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1. Theoretical Bases of Model Calculation and Selection of the modeling Fluid

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USSR

SOKOLOV, A. A., et al., Modeling of Processes of the Hydrodynamics of Viscous Smelts, Moscow, Izdatel'stvo Literatury po Stroitel'stvu, 1972, 191 pp

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USSR

SOKOLOV, A. A., et al., Modeling of Processes of the Hydrodynamics of Viscous Smelts, Moscow, Izdatel'stvo Literatury po Stroitel'stvu, 1972, 191 pp

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USSR

SOKOLOV, A. A., et al., Modeling Of Processes of the Hydrodynamics of Viscous Smelts, Moscow, Isdatel'stvo Literaturny po Stroitel'stvu, 1972, 191 pp

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USSR

UDC: 621.371

ANDRUSEVICH, L. K., KARPOV, V. N., and SHEYNMAN, D. I.

"Apparatus for Investigating Amplitude Probability Distribution  
and the Phase of Radio Signals Combined"

Moscow, Pribory i Tekhnika Eksperimenta, No. 3, 1971, pp 118-119

Abstract: A combined investigation of the fluctuations of phase and amplitude of short-wave signals in the ionosphere provides an insight to the physics of the signal fluctuations and permits estimating the potential noise immunity of phase-manipulated systems. The equipment described in this article for making such an investigation can obtain the conditional amplitude probability distributions and phase directly in the process of measurement. The block diagram of this apparatus is given, and its operation described. A separate block diagram of the phase fluctuation meter is also shown, together with a graph illustrating its operation. The authors express their gratitude to A. N. Shilovskiy for his assistance. They are associated with the Novosibirsk Electro-technical Institute.

1/1

123 016 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SPECIFIC FEATURES OF PAROTID SALIVARY GLAND COLLATERAL BLOOD FLOW  
AFTER EXPERIMENTAL VASCULAR OBSTRUCTION AND INDUCED ASEPTIC  
AUTHOR--(02)--LEYTES, A.L., SHEYNMAN, V.YU.  
COUNTRY OF INFO--USSR  
SOURCE--AKKH ANAT GISTOL EMBRIOL 53(2): 44-50, ILLUS. 1970.  
DATE PUBLISHED-----70  
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PROXY REEL/FRAE--3002/1055 STEP NO--UR/9076/70/058/002/0044/0050  
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UNCLASSIFIED



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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128483

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTS IN 50 RABBITTS WERE USED FOR MACRO- AND MICROSCOPIC STUDIES OF TRANSFORMATIONS IN INTRAORGANIC BLOOD VESSELS OF THE PAROTID SALIVARY GLAND AFTER OCCLUSION OF EXTRA ORGANIC VESSELS SUPPLYING EITHER THE INTACT; PRACTICALLY NORMAL GLAND OR THE GLAND AFFECTED WITH ASEPTIC TURPENTINE INFLAMMATION. SECTION OF 1 OF THE MAIN CERVICO CERBRAL VESSELS (COMMON CAROTID ARTERY OR EXTERNAL JUGULAR VEIN) IS USUALLY COMPLETELY COMPENSATED FOR THE DEVELOPMENT OF COLLATERAL CIRCULATION. THE MORE STRIKING CHANGES IN THE VASCULATURE OF THE GLAND WERE SEEN AT EARLY POSTOPERATIVE PERIODS. THE OCCLUDED BLOOD SUPPLY PROMOTES FURTHER TRANSFORMATION OF THE GLAND'S VASCULAR BED WITH TIME. NORMAL VASCULAR PATTERNS ARE NOT APPARENT BEFORE 90 DAYS POSTOPERATION. IMPAIRED DRAINAGE OF BLOOD FROM THE GLAND IS COMPENSATED FOR MUCH FASTER (AFTER 15-30 DAYS). COMPLETE RECOVERY OF THE GLAND'S VASCULATURE DID NOT TAKE PLACE EVEN AS LATE AS 180 DAYS. AFTER OBSTRUCTION OF THE COMMON CAROTID ARTERY AND PARTICULARLY, THE EXTERNAL JUGULAR VEIN, DURING THE COURSE OF ASEPTIC INFLAMMATION, CHANGES IN THE VASCULAR BED OF UNAFFECTED PORTIONS OF THE GLAND PROCEED WITH GREATER INTENSITY. IN THESE EXPERIMENTS, GREAT NUMBERS OF ENLARGED AND TORTUOUS COLLATERAL VESSELS MAY BE SEEN IN THE INTERLOBULAR CONNECTIVE TISSUE UP TO THE 90TH DAY. THE DENSITY OF TERMINAL CAPILLARY NETS WAS 1.5-2.5 THAT OF CAPILLARIES IN EXPERIMENTS WHERE A MAIN CERVICO CEREBRAL VESSEL WAS SECTIONED WITHOUT PRELIMINARY INFLAMMATION. CLINICAL IMPLICATIONS OF THESE FEATURES IN THE DEVELOPMENT OF COLLATERAL CIRCULATION ARE DISCUSSED.

UNCLASSIFIED

3/3 016  
CIRC ACCESSION NO--AP0128483  
ABSTRACT/EXTRACT--FACILITY:  
FRUNZE, USSR.

UNCLASSIFIED

PROCESSING DATE--13NOV70

DEP. NORM. ANAT., KIRG. STATE MED. INST.,

UNCLASSIFIED

USSR

SHIBALIN, V. A.

UDC 621.396.6.002.72(088.8)

"A Device for Producing Radio Component Leads Bent into a Helix"

USSR Author's Certificate No 254605, Filed 1 Apr 68, Published 10 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V301 P)

Translation: A device is proposed for producing radio component leads bent into a helix. The device is equipped with a drive mechanism and a lead-shaping unit with gears which twist the leads. As a distinguishing feature of the patent, reliability is improved and the work productivity of the device is increased by using three sliders one over the other. Fastened to the lower slider is a spring-return rod and punch which bend the leads through 90°. Fastened to the middle slider is the axle of a gear which moves over a stationary rack, and the upper slider is equipped with ports for pins used for axial displacement of the gears.

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USSR

UDC 620.193.43

1

PENYAGINA, O. P., OZERYANAYA, I. N., SMIRNOV, M. V., SHIBANOV, B. S., and SHAMANOVA, N. D., Academy of Sciences USSR, Ural Branch, Institute of Electrochemistry

"Passivation of Iron and Nickel in Molten Carbonates"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 312-314

Abstract: A study was made of the passivation of NO nickel and Armco iron in carbonate melts. Significant passivation of nickel is observed in the ternary eutectic mixture of lithium, sodium, potassium carbonates at 800°. At 600° there is appreciable inhibition only of the dissolution of electrodes electro-polished or working in contact with electronegative titanium. At 800° the phase composition of the film on the electrode changes as a result of the insertion of lithium oxide in the crystal lattice of nickelous oxide (solid solution  $\text{Li}_2\text{O} \cdot \text{NiO}$ ). The corrosion rate and steady-state potentials do not depend on the cation composition of the melt. The influence of the nature of the melt is noted in the anodic polarization of nickel under potentiostatic conditions.

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USSR

PENYAGINA, O. P., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 312-314

The kinetic characteristics of Armco iron passivation were studied in a eutectic mixture of lithium, sodium, and potassium carbonates (0.43 : 0.32 : 0.25) at 600°. In contrast to nickel, the rate of anodic dissolution of iron at this temperature is high from the very start of polarization. The process is accompanied by intensive covering of the surface of the metal with products of its interaction with ions of the melt, and it reaches a maximum in the region of sufficiently negative potential values and then a sharp transition of the electrode to the passive state is observed. The iron electrodes after the test were coated with a film, X-ray diffraction analysis of which shows the formation of compounds of the  $\text{LiFeO}_2$  and  $\text{Fe}_3\text{O}_4$  spinel type on the surface of the iron during anodic polarization. Films with such a structure as a rule possess high protective properties.

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Nitrogen Compounds

USSR

UDC 632.95

SHIBANOV, G. N., KAKLYUGIN, V. YA., North Caucasus Scientific Research  
Institute of Phytopathology

"A Method of Making 2,3,5-Trichloro- or 2,3,5,6-Tetrachloro-4-aminopyridines"

USSR Author's Certificate No 348560, Div C, filed 2 Feb 70, published 8 Sep  
72 (from RZh-Khimiya, No 14, 25 Jul 73, Abstract No 14M621 by T. A. Belyayeva)

Translation: A method is proposed for making 2,3,5-Cl<sub>3</sub>-4-NH<sub>2</sub>-pyridine (I)  
or 2,3,5,6-Cl<sub>4</sub>-4-NH<sub>2</sub>-pyridine (II) by reacting 2,3,4,5-Cl<sub>4</sub>-pyridine or  
2,3,4,5,6-Cl<sub>5</sub>-pyridine (III) with gaseous NH<sub>3</sub> in dimethylsulfoxyl at 60-65°C.

Example. NH<sub>3</sub> is bubbled through a mixture of 5 g of III in 6 ml of dimethyl-  
sulfoxyl at a rate of 80 ml/min at 60-65°C for 3 minutes, the reaction mass  
is cooled, poured into 15 ml of water, the precipitate is filtered out,  
washed with 10 ml of water and dried giving compound II with a yield of  
about 100%, melting point 222°C (alcohol). In a similar manner compound I  
is produced with a yield of 91% and a melting point of 143°C.

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USSR

UDC: 621.396.6.002(088.8)

GORODETSKIY, B. V., KOKHANOV, B. T., SHIBANOV, G. P., Taganrog Radio  
Engineering Institute

"A Device for Automatically Checking Radio Electronic Equipment"

USSR Author's Certificate No 264792, filed 16 Sep 68, published 2 Jul 70  
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V359 P)

Translation: A device is proposed which contains a normalizing commutator, a program unit, an analyzer, modules for measuring, self-monitoring and display, and completion time pickups. The device contains an additional computer module whose inputs are connected to the outputs of the pickups for the time of completion of the object being monitored, to the outputs of the modules of the monitoring device, and to the output of the analyzer, while the output of the computer module is connected to the input of the display module.

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USSR

UDC: 621.396.6.022(088.8)

KOKHANOV, B. T., GORODETSKIY, B. V., SHIBANOV, G. P., TOTAYEV, L. T.,  
Taganrog Radio Engineering Institute

"A Device for Automatically Checking Electronic Radio Equipment"

USSR Author's Certificate No 264793, filed 15 Sep 68, published 29 Jun 70  
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V462 P)

Translation: This Author's Certificate introduces a device for automatical-ly checking electronic radio equipment. The unit contains a normalizing commutator, measurement device, analyzer, signal converters, time-setting units with time selectors, and modules for automatic monitoring and display. To improve efficiency in checking, the device also contains a prognosis module whose inputs are connected through the signal converters and time selectors to the prognosis outputs of the normalizing commutator, measurement device and analyzer, while the output of the prognosis module is connected to the display module through an OR circuit. The other input of the OR circuit is connected to the output of the automatic monitoring module.

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AA0043390

UR 0482

S  
Soviet Inventions Illustrated, Section II Electrical, Derwent.

2/70

238247 CURVE SHAPE RECOGNITION ANALYSER consists of two units which work in synchronism. The first reads the ordinates of the curve and contains a tape feed, a vidicon with a vertical sweep generator and a photodiode. The second analyses the result and includes an up-down counter, a pulse generator, shift register and decoder. The two units are synchronised by delay circuits, OR-gates and a binary counter with a decoder.  
14.12.67 as 1203204/18-24. G.P. SHILBAMOV (20.7.69)  
Bul 9/20.2.69. Class 42m<sup>6</sup>. Int.Cl. G 05k.

1/1

jc 4

19761668

Miscellaneous

USSR

MEDZHIBOZHSKIY, M. YA., and SHIBANOV, V. I., Zhdanov Metallurgical Institute

"Effect of Technological Factors on Desulfuration of Metal in Large Open-Hearth Furnaces"

Novokuznetsk, IzVUZ-Chernaya Metallurgiya, No 6, 1971, pp 59-62

Abstract: For the purpose of studying the process of metal desulfuration in 650-ton open-hearth furnaces and refining the character of the effect on its technological factors (composition of slag, consumption of ore and limestone, etc.) data from 400 heats of steels St 3sp and 15R2S were analyzed. Results of the analysis confirmed the conclusion that the one factor having the greatest effect on the desulfuration of metal is the basicity of the slag. This was determined using equations expressing the distribution of sulfur between the slag and metal. Optimal values of slag basicity (almost 2.7) and the rate of its growth (almost 0.8 liters/hr), the increase of which did not lead to any significant improvement of metal desulfuration, were established. In the existing technology of reducing 650-ton heats and the intensity of blowing the bath (4.5-6.0 m<sup>3</sup>/ton-hr), the optimum consumption of limestone in this period is 12-14 tons (1.9-2.2% of heat weight). Magnitude of the ratio %FeO/%CaO = 0.3 provides a good assimilation of limestone and the best conditions for lowering sulfur content in the metal. Three figures, 3 bibliographic references. 1/1

USSR

UDC: 539.43

SHETULOV, D. I., MAGIDOV, M. B., MYASNIKOV, A. M., SHIBAROV, V. V., and  
SOKOLOV, L. D. , Gor'kiy

"Study of Hardening in the Process of Fatigue in Some Pure Metals"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, no 6, Nov-Dec 70, pp 165-169

Abstract: Earlier research has shown that the capacity of metals to resist varying stresses is inversely related to their capacity to harden under static stress. The coefficient of hardening is determined by the slope of the stress-strain curve (hardening curve). The slope of the fatigue curve demonstrates the capacity of materials to resist varying stresses "better" or "worse". The value of the slope of the hardening curve varies inversely with the packing defect energy ( $\gamma$ ), while the slope of the fatigue curve is a direct function of  $\gamma$ . Described here is an attempt to correlate both of these characteristics. The metals involved in the study were Al, Cd, Zn, Cu, Fe, and Ti. The experimental results indicate that the inclinations of the fatigue curves to the X-axis correlate with the packing defect energy ( $\gamma$ ), i.e., the higher the  $\gamma$ , the steeper the slope. The slope of the fatigue curves is related to the slope of the hardening curves, i.e., the flatter the slope of the fatigue curve, the steeper the hardening curve.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--ON THE CLINICAL PICTURE OF MONDOR'S DISEASE -U-  
AUTHOR-(04)-VASILYEV, T.V., SHIBANOV, V.A., OVSYANNIKOV, L.M.,  
TOPOROVSKIY, L.M.  
COUNTRY OF INFO--USSR  
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 68-71  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--REPRODUCTIVE SYSTEM, GENITOURINARY SYSTEM DISEASE, LESION,  
VENEREAL DISEASE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/2048 STEP NO--UR/0206/70/000/005/0068/0071  
CIRC ACCESSION NO--AP0122277  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122277

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE LAST 12 YEARS THE AUTHORS OBSERVED 13 PATIENTS WITH MONDOR'S DISEASE IN THE PENIS. CLINICAL MANIFESTATIONS OF THE DISEASE CONSISTED IN STRANDS IN THE INNER FOLD OF THE PREPUCE AND IN THE CORONAL SULCUS, OF DENSELY ELASTIC CONSISTANCE AND SLIGHTLY TENDER UPON PALPATION. SOMETIMES THE SURFACE OF THE SKIN ABOVE THE STRANDS UNDERWENT EROSION OR WAS ULCERATED AND IN THESE CASES THE CLINICAL PICTURE WAS SIMILAR TO THAT OF INDURATED CHANCER. A CAREFUL CLINICAL AND LABORATORY EXAMINATION IN THE HOSPITAL AND SUBSEQUENT CLINICAL SEROLOGICAL FOLLOW UP FOR 6-12 MONTHS PERMITTED TO EXCLUDE SYPHILIS, IN THESE PATIENTS COMPLETELY. IT IS EMPHASIZED THAT MONDOR'S DISEASE MAY NOT INFREQUENTLY SIMULATE PRIMARY SYPHILIS WHEN LOCALIZED IN THE PENIS. IN SUCH CASES A COMPLEX CLINICAL LABORATORY EXAMINATION MUST BE CARRIED OUT IN ORDER TO EXCLUDE SYPHILIS. FACILITY: OTDEL SIFILIDOLOGII TSENTRAL'NOGO N-I KOZHNO-VENEROLOGICHESKOGO INSTITUTA MINISTERSTVA ZDRAVOOKHRANENIYA SSSR I BOL'NITSA IM. V. G. KOROLENKO, MOSCOW.

UNCLASSIFIED

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SAIBANOVA

OM UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

226155 STEREO-REGULAR POLYMERS are prepared by the polymerisation of di-olefins using a bi-functional polymeric radical catalyst having organo-metalgroups at both ends, the metal combinations being gp. I and II, or I and III, or II, or III. The previous method utilised as catalyst transition metals and alkyls and alkyl-halides of aluminium which were very unstable in the atmosphere. In an example, 370 ml hexane, 95 ml iso-prene, 0.75 g complex bi-functional organo-metal ( $\text{NaAlR}_2$ ),  $(\text{C}_2\text{H}_5)_2$ , and 0.6 ml  $\text{TiCl}_4$  are polymerised for 38 hrs. in an autoclave at  $20^\circ\text{C}$ . The polymer is precipitated with ethanol to give 67% yield (mol. wt 320,000) of which 90% is cis-1,4-polymer. 2.11.64. as 927914/23-5, PETROV, G. N. et al. S.V. Lebedev Synthetic Rubber Res. Inst. (22.8.69) Bul. 28/5.9.68. Class 39c, Int. Cl. C 08d. 1

19761906

AA0043508

Petrov, G. N.; Lisochkin, G. F.; Shmagin, V. P.; Shibanova, O. M.

Vsesoyuznyy Nauchno-Issledovatel'skiy, Institut Sinteticheskogo Kauchuka  
imeni Akad. S. V. Lebedeva.

2/2  
19761907

USSR

UDC: 621.317.77(088.8)

SHIBAYEV, A. A., Tomsk Institute of Radio Electronics and Electronic Technology

"A Digital Phase Meter With Constant Measurement Time"

USSR Author's Certificate No 256072, filed 29 Apr 68, published 19 Mar 70  
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A291 P)

Translation: This Author's Certificate introduces a digital phase meter with constant measurement time. The unit contains a measurement flip-flop, coincidence circuits, a scaling circuit, a pulse counter, a flip-flop which sets the measurement time, a generator of quantizing oscillations, and a frequency divider. To improve measurement precision, the phase meter is equipped with a low-frequency filter connected to the output of the measurement flip-flop, and a phase modulator connected between the quantizing oscillation generator and the coincidence circuit. E. L.

1/1



USSR

UDC: 621.039.562.24

USYNIN, G. B., SHIBAYEV, V. A., and CHIRKOV, V. A.

"Stabilization of Specific Heat Release in A Fast Reactor Using Control Rods"

Moscow, Atomnaya energiya, Vol 31, no 1, Jul 71, pp 3-6

Abstract: The efficiency of fuel elements in a fast reactor depends largely on their temperature. The maximum load is generally concentrated on the fuel element casing. The reduction of the latter's temperature while maintaining the mean coolant temperature constant is therefore of great significance. This can be accomplished by distributing the coolant consumption rate according to the heat release curve along the reactor's radius. In ideal hydraulic designs the individual cells are heated equally and the average heating over the reactor concurs with the maximum heating of the coolant. In practice, however, such situations never materialize. The responsible factors are detailed and mathematical treatment of this and other closely related problems is presented. It is

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USSR

USYNIN, G. B., et al, Atomnaya energiya, Vol 31, no 1, Jul 71, pp 3-6

believed that rearrangement of the compensator rods in closer proximity to the periphery of the active zone at a given optimal radius will produce a positive economic effect. (3 illustrations, 1 table, 3 biblio. references)

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USSR

UDC: 621.396.2:621.371

SHIBAYEV, V. M., SHEVCHUK, R. M., NIKITIN, V. I.

"Experimental Investigation of Railroad Radio Communications Channels in the Case of Vertical and Horizontal Polarizations of Radio Waves in the 150 MHz Range"

Nauch. tr. Omsk. in-t inzh. zh.-d. transp. (Scientific Works. Omsk Institute of Railway Transportation Engineers), 1970, 119, pp 78-82 (from RZh-Radio-tekhnika, No 6, Jun 71, Abstract No 6A165)

Translation: It is found that the form of polarization of electromagnetic waves as they are propagated along electric railroads has no appreciable effect on signal attenuation; in the case of horizontal polarization, a signal has a narrower dynamic range of oscillations as compared with vertical polarization. The ZhR-5 receiver is taken as a basis for development of a logarithmic measuring device which can be used for automatic recording of signal and interference voltages. Resumé.

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USSR

UDC 542.91.547.455:547.1'118

SHIBAYEV, V. N., KUSOV, Yu. Yu., TROITSKIY, M. F., and KOCHETKOV, N. K.,  
Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences  
USSR

"Chemistry of Glycosyl Phosphates and Their Derivatives. Communication 4.  
Phosphorylation of Benzoylated Glycosylacetates of the Phosphoric Acid and  
Synthesis of  $\alpha$ - and  $\beta$ -Anomers of 4-O-Methylsulfonyl-D-galactopyranosyl  
Phosphate"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 8, Aug 73,  
pp 1862-1867

Abstract: The synthesis of  $\alpha$ - and  $\beta$ -anomers of 4-O-methylsulfonyl-D-galactopyranosyl phosphate was carried out by fusion of 1-O-acetyl-2,3,6-tri-O-benzoyl-4-O-methylsulfonyl- $\beta$ -D-galactopyranose with anhydrous  $H_3PO_4$ . During phosphorylation of glycosylacetates containing a benzoyl group at C-2, the reaction products may be predominantly  $\beta$ -anomers of glycosyl phosphates. It was shown to be possible to use ion exchange chromatography for the separation of a mixture of anomers of the shielded glycosyl phosphates.

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USSR

UDC 542.91:547.455.547.1'118

SHIBAYEV, V. N., KUSOV, YU. YU., KUCHAR, SH., and KOCHETKOV, N. K.,  
Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of  
Sciences USSR

"The Chemistry of Glycosyl Phosphates and Their Derivatives. Communication 2. The Synthesis of Deoxyglycosyl Phosphate Derivatives of 6-, 4-, and 3-Deoxy-D-Glucose"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973, pp 430-434

Abstract: Synthesis of deoxyglycosyl phosphate derivatives of 6-, 4-, and 3-deoxy-D-glucose was achieved through fusion of the  $\beta$ -acetates of deoxysugars with anhydrous  $H_3PO_4$ . Acetylation of deoxysugars was attained with  $Ac_2O$  in the presence of  $AcONa$  ( $100^\circ$ , 2 h), and subsequent phosphorylation of the resultant  $\beta$ -tetraacetates was performed with an 8-fold excess of  $H_3PO_4$  under vacuum at  $50^\circ$ . Deacetylation of the products with 1 N  $LiOH$  resulted in practically complete removal of inorganic phosphate as the lithium  
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USSR

SHIBAYEV, V. N., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973, pp 430-434

salt. The resultant  $\alpha$ - and  $\beta$ -anomers of the deoxyglycosylphosphates were resolved by chromatography on a Dowex-1x8 ( $\text{HCO}_3^-$ ) column, by elution with a linear gradient of triethylammonium bicarbonate (pH 7.5). In this manner, the respective triethylammonium salts of 3-deoxy- $\alpha$ -D-ribohexopyranosyl phosphate (I), 3-deoxy- $\beta$ -D-ribohexopyranosyl phosphate (II), 4-deoxy- $\alpha$ -D-xylohexopyranosyl phosphate (III), 4-deoxy- $\beta$ -D-xylohexopyranosyl phosphate (IV), 6-deoxy- $\alpha$ -D-glucopyranosyl phosphate (V), 6-deoxy- $\beta$ -D-glucopyranosyl phosphate (VI),  $\alpha$ -D-glucopyranosyl phosphate (VII), and  $\beta$ -D-glucopyranosyl phosphate (VIII) were synthesized from the corresponding  $\beta$ -tetraacetates (I and II from 1,2,4,6-tetra-O-acetyl-3-deoxy- $\beta$ -D-ribohexopyranose, III and IV from 1,2,3,6-tetra-O-acetyl-4-deoxy- $\beta$ -D-xylohexopyranose, V and VI from 1,2,3,4-tetra-O-acetyl-6-deoxy- $\beta$ -D-glucopyranose), and VII and VIII from 1,2,3,4,6-penta-O-acetyl- $\beta$ -D-glucopyranose. The average yield of the deoxyglycosyl phosphates ranged from 35-40%, and formation of the  $\alpha$ -anomer predominated under these conditions of phosphorylation. In the case of the D-glucopyranosyl

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USSR

SHIBAYEV, V. N., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973, pp 430-434

phosphates the ratios of  $\alpha$ - and  $\beta$ -anomer were reversed, apparently due to the shorter phosphorylation times. Optical rotatory dispersion data and  $[\alpha]_D$  values were used to evaluate the configurations about C-1. Mobilities on paper electrophoresis were identical for the deoxyglycosyl phosphates and the  $\alpha$ -D-glucopyranosyl phosphate (paper M, Leningrad Factory No. 2, 20-25 V/cm, 1 hr, 0.05 M triethylammonium bicarbonate buffer, pH 7.5), while the former showed greater mobilities on paper chromatography in two solvent systems.

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USSR

UDC 542.91:547.455:547.1'118

KOCHETKOV, N. K., SHIBAYEV, V. N., KUSOV, YU. YU., and TROITSKIY, N. F., Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR

"The Chemistry of Glycosyl Phosphates and Their Derivatives. Communication I. The Synthesis of 4-Thio- $\alpha$ -D-Glucopyranosyl Phosphate"

Moscow, Izv. Akad. Nauk SSR, Ser. Khimicheskaya, No 2, 1973, pp 425-430

Abstract: This is the first reported synthesis of 4-thio- $\alpha$ -D-glucopyranosyl phosphate (I). The reaction sequences leading to the synthesis of I were as follows: 5.6 g 2,3,6-tri-O-benzoyl-4-O-methylsulfonyl- $\alpha$ -methyl-D-glucopyranoside and 4.8 g  $C_6H_5COSK$  were dissolved in 50 ml DMF and heated to 140°; the mixture was cooled, sediment removed, and the filtrate concentrated in vacuo. The resultant residue from the filtrate was dissolved in  $CHCl_3$ , filtered through a column of activated charcoal, concentrated by vacuum evaporation, and recrystallized from absolute ethanol.

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USSR

KOCHETKOV, N. K., et al., *Izv. Akad. Nauk SSR, Ser. Khimicheskaya*, No 2, 1973, pp 425-430

Three and eight tenths g (64%) of 2,3,6-tri-O-benzoyl-4-thio-4-S-benzoyl- $\alpha$ -methyl-D-glucopyranoside (II) were obtained. The structure of II was confirmed by IR spectra. Subsequently, 1 g II was treated with 50% HBr in glacial AcOH (20 ml); the suspension was stirred for 24 h at 20°, poured into 20 ml of glacial AcOH, and extracted three times with 50 ml  $\text{CHCl}_3$ . The extract was washed with  $\text{NaHCO}_3$ , ice water, dried over  $\text{MgSO}_4$ , concentrated by evaporation, and yielded 0.95 g of 2,3,6-tri-O-benzoyl-4-thio-4-S-benzoyl- $\alpha$ -D-glucopyranosyl bromide (III). Five tenths g of the chromatographically homogenous III was dissolved in 10 ml  $\text{CHCl}_3$  (alcohol free), and 0.5 g  $\text{AgOAc}$  added. The suspension was stirred 24 h, filtered through celite, concentrated by evaporation, and the residue recrystallized from abs. ethanol to yield 0.32 g (64.5%) 1-O-acetyl-2,3,6-tri-O-benzoyl-4-thio-4-S-benzoyl- $\beta$ -D-glucopyranose (IV) [m.p. 129-132°,  $[\alpha]_D^{20} + 56.5^\circ$ ]. IR and PMR spectra confirmed IV. 0.2 g IV were then phosphorylated with 0.21 g crystalline  $\text{H}_3\text{PO}_4$  in vacuum for 3 h at 50°, the mixture cooled,

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USSR

KOCHETKOV, N. K., et al., Izv. Akad. Nauk SSR, Ser. Khimicheskaya, No 2, 1973, pp 425-430

5 g crushed ice added, and extracted with  $\text{CHCl}_3$  containing 0.8 ml trioctylamine. The  $\text{CHCl}_3$  extract was concentrated by evaporation, applied to a Dower-1x4 ( $\text{HCO}_3^-$ ) column, and eluted with a linear gradient (0.1-0.5 M) of a water-methanol solution of triethylammonium bicarbonate. Fractions containing organic phosphorus were pooled, concentrated by evaporation, and yielded 7.9 g (3.1%) of 2,3,6-tri-O-benzoyl-4-thio-4-S-benzoyl- $\alpha$ -D-glucopyranosyl phosphate as the triethylammonium salt (V). Finally, 2.29 g of V was debenzoylated with 3 ml  $\text{CH}_3\text{ONa}$  in argon saturated methanol for 48 hr at  $0^\circ$ . The mixture was filtered through a Dowex-50 column ( $\text{H}^+$ ), the eluate neutralized with 5%  $\text{NH}_4\text{OH}$ , evaporated, dissolved in cold water, washed with ether, and rapidly evaporated to dryness. I was obtained in a yield of 1.83 g (79%);  $[\alpha]_D^{20} + 60.5^\circ$ .

D

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1/2 020 UNCLASSIFIED PROCESSING DATE--300670  
TITLE--ANALOGS OF CARBOHYDRATE METABOLISM COENZYMES. 15 SYNTHESIS OF  
URIDINE 5 PRIME, -4, DEOXY, D, XYLO, HEXOSYL PYROPHOSPHATE -U-  
AUTHOR--(04)--KOCHECHKOV, N.K., BUDOVSKIY, E.I., SHIBAYEV, V.N., KUSOV,  
YU.YU.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 404-11  
DATE PUBLISHED--70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--COENZYME, CARBOHYDRATE METABOLISM, CHEMICAL SYNTHESIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/0430 STEP NO--UR/0062/70/000/002/0404/0411  
CIRC ACCESSION NO--AP0128001  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 020

CIRC ACCESSION NO--AP0128001

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ME ALPHA,D,GALACTOSIDE IN PYRIDINE TREATED WITH BZCL AT MINUS 40DEGREES, THEN WARMED TO ROOM TEMP. GAVE

68PERCENT 2,3,6-TRIBENZOATE, M. 137-80DEGREES WHICH WITH MESO SUB2 CL IN PYRIDINE GAVE ME 2,3,6,TRI,O,BENZOYL,4,

O,(METHYLSULFONYL),ALPHA,D,GALACTOPYRANOSIDE, M. 143.5-45DEGREES, WHICH WITH KSCN IN DMF 2 DAYS AT 140DEGREES GAVE 65.6PERCENT ME 2,3,6,TRI,O,

BENZOYL,4,DEOXY,4,THIOCYANO,ALPHA,D,GLUCOPYRANOSIDE, M. 192-2.5DEGREES, WHICH INHOT ETCH WITH RANEY N133 HR THEN TREATED WITH ME, ONA,MEOH AND

KEPT 15 HR GAVE 77PERCENT ME 4,DEOXY,ALPHA,D,XYLO, HEXOPYRANOSIDE, M. 88-9.5DEGREES, WHICH HEATED WITH DOWEX-50 RESIN IN H FORM IN H SUB2 O

8.5 HR GAVE 61PERCENT 4,DEOXY,D,XYLO,HEXOSE, M. 125- 7DEGREES. TREATING 4,DEOXY,D,XYLO,HEXOPYRANOSE IN PYRIDINE WITH AC SUB2 O IN CHCL SUB3 AT

0-4DEGREES 43 HR GAVE 1,2,3,6-TETRA,O,ACETHL,4,DEOXY, D,XYLO,HEXOPYRANOSE, M. 105-7DEGREES, WHICH IN ACOH AT 0DEGREES WITH

40PERCENT HBR IN ACOH GAVE IN 3 HR AT ROOM TEMP. 96PERCENT 2,3,6,TRI,O,ACETYL, 3,DEOXY,ALPHA,D,XYLO,HEXOPYRANOSYL BROMIDE, A SYRUP,

WHICH WITH (PHO) SUB2 PO SUB2 AG IN C SUB6 H SUB6 REFLUXED 2 DAYS IN THE DARK GAVE 42PERCENT SYRUPY DIPHENYL PHOSPHATE, WHICH WAS DIRECTLY

HYDROGENATED OVER PT IN MEOH TO 4,DEOXY,ALPHA,D,XYLO,HEXOPYRANOSYL PHOSPHATE, ISOLATED AS THE NH SUB4 SALT AND THE ET SUB3 N SALT. THE

LATTER WITH URIDINE 5 PRIME,PHOSPHOMORPHOLIDE ET SUB3 N SALT IN ME SUB2 SO,C SUB6 H SUB6 W HR AT 60DEGREES GAVE PURE URIDINE 5

PRIME,(4,DEOXY,D,XYLO,HEXOPYRANOSYLPYROPHOSPHATE) (1), A NEW ANALOG OF "UDPG." G. M. KOSULAPOFF.

ZELINSKOGO, MOSCOW, USSR. FACILITY: INST. ORG. KHIM. IN.

UNCLASSIFIED

1/2 023  
UNCLASSIFIED  
PROCESSING DATE--27NOV70  
TITLE--STRUCTURE OF POLYMERS WITH LONG SIDE BRANCHES -U-  
AUTHOR--(03)-ZUBOV, YU.A., PETRUKHIN, B.S., SHIBAYEV, V.P.  
COUNTRY OF INFO--USSR  
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(4), 290-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--X RAY ANALYSIS, MOLECULAR STRUCTURE, MODEL, CRYSTAL STRUCTURE,  
METHYL METHACRYLATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3006/1247  
CIRC ACCESSION NO--AP0134921  
STEP NO--UR/0460/70/012/004/0290/0294  
UNCLASSIFIED

2/2 023

CIRC ACCESSION NO--AP0134921  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. A STRUCTURAL MODEL WAS PROPOSED FOR POLY(ALKYL ACRYLATES) (I) AND POLY(ALKYL METHACRYLATES) (II) FROM RESULTS OF X RAY ANAL. OF POLY(HEXADECYL ACRYLATE) (III) AND POLY(HEXADECYL METHACRYLATE) (IV). THE MODEL ACCOUNTED FOR THE 1 LAYER OR 2 LAYER HEXAGONAL PACKING OF SIDE CHAINS AND FOR THE FORMATION OF EVEN AND ODD REFLECTIONS AT SMALL ANGLES. A FORMULA WAS DERIVED FOR THE AZIMUTHAL DISTRIBUTION OF INTENSITY SCATTERING. X RAY PATTERNS OF III, IV AND HEXADECYL ACRYLATE ISO-PR ACRYLATE COPOLYMERS SUGGESTED THAT I AND II HAD A GAS CRYST. STRUCTURE. FACILITY: FIZ.-KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 031  
TITLE--STRUCTURE AND PHASE TRANSITIONS IN LONG CHAIN CRYSTALLINE VINYL  
MONOMERS -U-  
AUTHOR--(03)-PETRUKHIN, B.S., SHIRAYEV, V.P., PLATE, V.A.  
COUNTRY OF INFO--USSR  
SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970 12(3) 687-91  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ACRYLATE, STEARIC ACID, ESTER, MONOMER, CHEMICAL SYNTHESIS, X  
RAY DIFFRACTION, IR SPECTRUM, CRYSTAL, PHASE TRANSITION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1992/0308  
CIRC ACCESSION NO--AP0111502  
STEP NO--UR/0459/70/012/003/0687/0691  
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111502

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. C SUB16-18 ALKYL ACRYLATES (II), CETYL METHACRYLATE (III), AND VINYL STEARATE (III) WERE PREPD. BY METHODS DESCRIBED EARLIER (S., ET AL., 1968). X RAY DIFFRACTOMETRY, THERMOGRAPHY, AND IR SPECTROSCOPY SHOWED THAT THESE MONOMERS EXIST IN SEVERAL CRYSTALLOGRAPHIC FORMS. I HAVE HEXAGONAL AND TRICLINIC CRYSTALS, II IS TRICLINIC, AND III IS RHOMBIC. THE HEXAGONAL FORM OF I IS STABLE TO SIMILAR TO 10DEGREES BELOW ITS M.P. ONLY WITH A C SUB17 ALKYL GROUP. OTHER I DURING STORAGE ARE TRANSFORMED INTO TRICLINIC FORMS.

UNCLASSIFIED



Acc. Nr. **AP0048842**

Abstracting Service:  
CHEMICAL ABST.

5-70

Ref. Code  
**UR0459**

90929y Effect of the flexibility of the main chain on the structure of crystalline polymers and copolymers with long side branches. Shibaev, V. P.; Petrukhin, B. S.; Plate, N. A.; Karein, V. A. Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR. Vysokomol. Soedin., Ser. A 1970, 12(1), 140-8 (Russ). X-ray diffractometric data, thermogravimetry, and detns. of m.p., entropy ( $\Delta S$ ) and enthalpy ( $\Delta H$ ) of melting show that in atactic or isotactic title polymers (I) the character of the side chain packing is detd. by the flexibility of the main chain. Poly(vinyl stearate), poly(*n*-heptadecyl acrylate), poly(*n*-octadecyl acrylate), and poly(hexadecyl acrylate) have relatively high m.p.,  $\Delta S$ ,  $\Delta H$ , and 2-layer side chain packing. Poly(hexadecyl methacrylate) and hexadecyl acrylate-iso-Pr acrylate copolymer have relatively low m.p.,  $\Delta S$ ,  $\Delta H$ , and single-layer side chain packing. All I have hexagonal crystal structure. CPJR

LD

REEL/FRAME  
**19800609**

7

c. Nr. **ATC100197** - Abstracting Service:  
- CHEMICAL ABST.

Ref. Code

4A 6020

111989k Highly elastic deformation of 1,4-butanediol dimethacrylate-hexyl methacrylate copolymer. Kargin, V. A.; Khalikov, D. Kh.; Shibaev, V. P.; Plate, N. A.; Lamanovskaya, A. F. (Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR). Dokl. Akad. Nauk SSSR 1970, 190(2), 376-9. [Phys. Chem] (Russ). An attempt was made to det. the values of the individual terms of the elastic stretching force  $f = (\partial H / \partial \lambda)_{P,T} - T(\partial S / \partial \lambda)_{P,T} = (\partial H / \partial \lambda)_{P,T} + T(\partial f / \partial T)_{P,\lambda}$  where  $\lambda$  = the degree of stretching,  $H$  = enthalpy,  $S$  = entropy,  $P$  = stress, and  $T$  = the temp.; as well as  $f_e/f$ , where  $f_e$  = the energy component of  $f$ , for 1,4-butanediol dimethacrylate-hexyl methacrylate copolymer (I). The stress relaxation and thermoelastic properties of I films ( $30 \times 5 \times 1$  mm) were measured with a special dynamometer (M. E. Misyurevich, 1969). The  $f$  was almost identical at high and low temps. This, together with the absence of residual deformation, indicated the complete reversibility of the highly elastic deformation. However, despite the fact that  $(\partial f / \partial T)_{P,\lambda}$  for I at  $\lambda > 1.10$  was pos.,  $f$  was not directly proportional to  $T$ . DBJR —

REEL/FRA  
19841579

CB 7

USSR

UDC: 534.232

SHIBAYEVA, A. V., POPKO, G. I., SHCHERBAK, Yu. M., Belorussian "Order of the Red Banner of Labor" State University imeni V. I. Lenin

"A Method of Making Thin-Film Ultrasonic Transducers"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329653, Division H, filed 11 Apr 70, published 9 Feb 72, p 221

Translation: This Author's Certificate introduces a method of making thin-film ultrasonic transducers. The procedure is based on vacuum vaporization of material. As a distinguishing feature of the patent, the reliability of the transducers is improved and their resistance to mechanical effects is increased while simplifying the manufacturing technique at the same time by using selenium as the initial material.

1/1

- 147 -

Acc. Nr:

AP0041403

Abstracting Service:  
CHEMICAL ABST. 4-70

Ref. Code:

UK 0000

S

71811n Crystal structure of the 1:2-complex of bis(toluen-  
chromium and 7,7,8,8-tetracyanoquinodimethan,  $[(C_6H_5CH_2)_2-$   
 $Cr]^{+}(C_6H_4N_4)^{-}(C_6H_4N_4)$ . Shibaeva, R. P.; Atamnyan, L. O.;  
Orfanova, M. N. (Inst. Chem. Phys., Moscow, USSR). *J.*  
*Chem. Soc. D* 1969, (24), 1494 (Eng). Crystals of  $[ (PhMe)_2-$   
 $Cr ]^{+}TCNQ^{-}TCNQ^0$  (I) where  $TCNQ = 7,7,8,8$ -tetracyano-  
quinodimethan =  $TCNQ$ , are dark violet needles developed  
along the  $b$  axis, and are triclinic, space group  $P\bar{1}$ , with  $a$  8.25,  $b$   
7.76,  $c$  13.77 Å,  $\alpha$  94.7°,  $\beta$  92.3°,  $\gamma$  112.5°;  $Z = 1$  and the calcd.  
 $d = 1.32$ . The sp. resistance of 1 single crystals is 0.5 ohm/cm  
with an activation energy of 0.08 eV. The structure of I consists  
of stacks of bis(toluen)chromium cations and stacks of alternate  
 $TCNQ^{-}$  and  $TCNQ^0$ , with interplanar spacings of 3.29 Å.

DWJN

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di

REEL/FRAME  
19751268

1/2 014  
TITLE--EPIDERMAL LIPIDS -U- UNCLASSIFIED  
PROCESSING DATE--13NOV70  
AUTHOR--SHIBAYEVA, S.M.  
COUNTRY OF INFO--USSR  
SOURCE--ARKH. ANAT., GISTOL. EMBRIOL. 1970, 58(2), 71-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--SWEAT GLAND, CHOLESTEROL, LIPID, HISTOCHEMISTRY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3006/0233  
CIRC ACCESSION NO--AP0134038  
STEP NO--UR/9076/70/058/002/0071/0075  
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134038

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. SEVEN HISTOCHEM. METHODS WERE USED FOR DETECTION OF HUMAN PLANTA (SOLE) EPIDERMAL LIPIDS. LIPIDS IN THE INTERCELLULAR BOUNDARIES WERE MAINLY SPHINGOMYELINS; LECITHIN WAS FOUND IN THE GERMINAL ZONE. CHOLESTEROL WAS FOUND IN THE SWEAT GLANDS. FACILITY: RES. LAB., USSR MIN. HEALTH, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 612.84:[617.721.6+612.842.6]-085.835.3-073

CHERKASOV, I. S., Doctor of Medical Sciences, SHIBINSKAYA, N. I., Docent,  
KOBOZEVA, G. I., Candidate of Medical Sciences, RADKOVSKAYA, A. YA., and  
IL'YASHENKO, A. P., Physician, Chair of Eye Diseases, Odessa Medical Institute  
and Basseynova Hospital for Mariners

"Hydrodynamics of the Eye and Vascular Pressure in Healthy Man During Hyper-  
baric Oxygenation"

Odessa, Oftal'mologicheskiy Zhurnal, No 8, 1971, pp 575-577

Abstract: The investigation was performed on 10 healthy subjects aged 18-34, in a 4.5 m<sup>3</sup> pressure chamber which was continuously ventilated to maintain oxygen concentration at 40-60% under conditions of normal temperature, humidity and CO<sub>2</sub>, and at a pressure of 2.5 atm. The following determinations and calculations were performed: tonography, blood pressure in the brachial artery and in the central artery of the retina, average dynamic arteriolar pressure, the retino-brachial coefficient, and the coefficient of Lobstein. The results revealed that hyperbaric oxygenation produces no significant changes in the hydro- and hemodynamics in the eyes of healthy individuals. A small decrease in intraocular fluid secretion and intraocular pressure occurred during exposure to 2.5 atm. After decompression, production of the intraocular fluid was increased somewhat due to a greater blood flow, but soon returned to normal.

1/1

USSR

UDC 537.311.546.28

MAKAREVICH, A.I., RAYNES, L.YU., SHIBKO, L.S.

"Effect Of Pile Radiation On High-Resistance Silicon"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Nonmetal Crystals--Collection Of Works), Minsk, Nauka i tekhn., 1970, pp 18-21 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1830)

Translation: The effect is investigated of pile radiation on high-resistance p-type Si. It is shown that with comparatively small doses of fast neutrons ( $\sim 10^{12}$  n/cm<sup>2</sup>), defects are formed in high resistance Si which gives rise to the appearance in the forbidden band of the energy levels  $E_v + 0.27$ ,  $E_v + 0.40$  and  $E_v + 0.42$  e.v. It is shown that defects of the divacancy type, a complex of primary defect impurity, and an accumulation of defects are respectively responsible for these levels. 7 ref. Summary.

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USSR

SHIBKOV, A. A., "Meditsina," 1970, pp 192

the entire period since the appearance of publications of a military-medical nature, i.e., from 1700 to the present. This bibliographic reference book contains information on all the books and brochures of a military-medical nature located by the author (monographs, handbooks, textbooks, training aids, official instructions, specialized collections of scientific works, etc.). It is arranged according to the fundamental branches of military medicine and clearly demonstrates the richness and variety of publications reflecting the development of scientific thought and the demands of practice in a given field. It is very good that the author of the guidebook included in it all of the more or less large bibliographic indexes by which he significantly extended the possibilities for orientation of the reader. There can be no doubt that the "Short Bibliographic Guide" by A. A. Shibkov will assist not only beginners but also mature scientific workers studying the various problems of military medicine to orient themselves in the profusion of sources in the literature and to choose the works which they need. To a larger degree, this guide book will render immense service to the historians of military medicine, inasmuch as it testifies, with sufficient clarity, to the inception and development of various ideas, tendencies and scientific schools in the sphere of

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APPROVED FOR RELEASE: 07/20/2001

CIA-RDP86-00513R002202920015-8

UDC 616:[61:355] (47) "1700-1968"

USSR

SHIBKOV, A. A., Candidate of Medical Sciences, Col Med Sor (Reserve)  
Kratkiy Bibliograficheskiy Spravechnik Russkoy Voenno-Meditsinskoy Literatury  
(1700-1968) (Short Bibliographic Guide to Russian Military-Medical Literature (1700-1968))

Leningrad, "Meditsina," 1970, pp 192

# PREFACE

One of the faithful and essential aids to any specialist undertaking scientific research is a good bibliographic index. Unfortunately, bibliographic publications do not frequently appear in the book market of medical literature. Bibliographic reference publications in the sphere of military medicine are particularly rare. As a matter of fact, until the present time we did not have a bibliographic index which embraced all of the domestic military-medical literature. The bibliographic indexes which appeared in the past represented only small spheres of military medicine (for instance, the indexes by A. S. Georgiyevskiy, Yu. V. Brugov, B. A. Ivanov, and others), or they covered a relatively brief historical period (for instance, the bibliography prepared by I. D. Nakurov covering the period of the World War II, 1941-1945). The attention of the reader is directed to the "Short Guide to Russian Military-Medical Literature", compiled by A. A. Shibkov, which is a considerable degree. It embraces practically

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military medicine. However, let the reader himself express his opinion concerning the virtues of the bibliographic guide.

A. S. Georgiyevskiy, Professor, Lt. Gen Med Serv

Oct 1968

#### INTRODUCTION

Russian military-medical literature began to appear in print at the beginning of the 18th century. Its history has continued for more than 2-1/2 centuries, but it entered the mainstream only after the Great October Socialist Revolution. The successes in developing social economy, science, and medical education during the years of Soviet rule have insured a rapid growth of all phases of medical and, among them, military-medical literature. In connection with the large volume of Russian military-medical literature and the gaps in its bibliography, it is not always easy to find the necessary book in that profile. Contemporary bibliography on domestic military medicine (under the Tsars and in Soviet Russia) shows literature appearing only at certain historical stages and predominantly on separate specialties. The search for work on military medicine published over a period of

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SHIBKOV, A. A., "Meditsina," 1970, pp 192

268 years necessitated great efforts. Voluminous card indexes and dozens of published bibliographies on medicine, scrutinized in the libraries of Leningrad and Moscow, produced no impression of an integrated literature on domestic military medicine, particularly during the pre-Soviet period. Acquaintance with author indexes on medical literature in numerous books and journals published in our country during various periods made it possible to fill in the bibliographical gaps to some extent. In this manner the continuity of the basic domestic military medical literature published at various historical periods from its inception to our days was established. With a view to popularizing the bibliography on domestic military medicine, we indicate here among the books not only strictly bibliographical works but also the larger author indexes of that literature printed in monographs and journals. Practice shows that it is not always possible to draw a sharp line between the literature on general medicine and that on military medicine, since they frequently are closely interconnected. If the published work concerns prophylactic measures, incidence, and treatment of diseases frequently encountered among a given contingent of those in the military service and is connected with the conditions of their work, then we have included it in the branch of military-medical literature.

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SHIBKOV, A. A., "Meditsina," 1970, pp 192

The present guide does not contain the names of articles, lectures, or literature of limited extent (for official use, etc.), or of popular science brochures, memoirs, minor instructions, methodology, and educational programs. Only those dissertations are shown which were published as a separate book. Information on scientific works, collective works, and proceedings of scientific conferences are shown here only for historical review and thematic publications of a strictly military medical profile. In this short guide we adopted an abbreviated version of bibliographic information which is widely used in contemporary Soviet scientific literature, i.e., the publisher, scientific titles of the author or editor, and the number of pages in the book are not indicated. For the convenience of readers, we have also marked small brochures with an asterisk. These embody the original methodological aids, lectures, and brief descriptions of prominent figures in domestic military medicine. Brevity of bibliographic annotations has made it possible to put into this miniature guide the names of books, brochures, and journals for almost all of the basic Russian military-medical publishers which were issued from 1700 to 1958. Title pages included in the guide direct the attention of the reader to the primary sources of literature in each branch of military medicine during the period of its formation as a separate discipline.

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They also show unique publications and large basic textbooks and directions on military medicine. This guide will show the investigator what has been published in a separate book in the past on his scientific theme. A broad bibliography ensures continuity in science; consideration of past research in analogous fields ensures less duplication.

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Phytology

UDC 632.934.1:582.288.42:633.511

USSR

POPOV, V. I., SHIBKOVA, N. A., and TRACHENKO, M. P., All Union Scientific Research Institute of Plant Protection, Leningrad

"The Effectiveness of the Fungicide Benleil Against Verticillium Wilt of Cotton"

Leningrad, Mikologiya i Fitopatologiya, Vol 4, No 2, 1970, pp 193-200

Abstract: The activity of benleil (Dupont) with respect to Verticillium dahliae, a variety of cotton wilt, was estimated. Direct application of a benleil solution of 50 mg/kg to cultures of the wilt pathogen completely destroyed mycelium and rendered the medium sterile. Treating the seeds by the adhesive method was 100% effective. Treating the soil with various doses of benleil prior to planting was also effective. The most significant experiment consisted of treatment of the soil with benleil in an amount of 80 g/kg 30 days prior to planting, followed by injection of the pathogen into plants, which remained completely protected. Since the pathogen was not in direct contact with the fungicide, it was concluded that the plant roots absorbed the fungicide from the soil, and carried it into the plant, where it killed the injected pathogen. It is therefore the first systemic fungicide effectively inhibiting cotton wilt 100%, and merits further field study with other plants.

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1/3 008 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SYNTHESIS OF POLYPEPTIDES OF REGULAR STRUCTURE CONTAINING SERINE  
AND GLUTAMIC ACID, AND MODELING NONPOLAR REGIONS OF THE COLLAGEN PROTEIN  
AUTHOR--(04)-SHIBNEV, V.A., KHALIKOV, SH.KH., FINGENOVA, M.P., POROSHIN,  
K.T.  
COUNTRY OF INFO--USSR

SOURCE--IZV. AKADE. NAUK SSSR. SER. KHIM. 1970, (4), 880-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PEPTIDE, CHEMICAL SYNTHESIS, AMINO ACID, COLLAGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/0482

STEP NO--UR/0062/70/000/004/0880/0885

CIRC ACCESSION NO--AP0131119

UNCLASSIFIED

PROCESSING DATE--13NOV70

UNCLASSIFIED

2/3 008

CIRC ACCESSION NO--AP0131119  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TREATING 5 G HYDROXYPROLINE IN 85PERCENT HCO SUB2 H WITH 20 ML AC SUB2 O AT 10DEGREES AND KEEPING THE MIXT. 1.2 HR, FINALLY AT 30DEGREES, GAVE 96PERCENT FORMOXYPROLINE (IA), M. 127DEGREES. ADDING 2 G POCL SUB3 IN CH SUB2 CL SUB2 TO 2.1 G CARBOBENZOXYGLYCINE AND 12 ML PYRIDINE, FOLLOWED BY 2.17 G 2,4,6 CL SUB3 91PERCENT CARBOBENZOXYGLYCINE 2,4,6 TRICHLOROPHENYL ESTER, M. 109DEGREES, WHICH WITH 40PERCENT HBR IN ACDH GAVE IN 25 MIN GLYCINE 2,4,6 TRICHLOROPHENYL ESTER HBR (II), DECOMP. 215DEGREES. FORMYGLYCINE (4.5 G) AND 8.5 G I IN MECH H SUB2 O AT MINUS 4DEGREES TREATED WITH 9 G DICYCLOHEXYLCARBODIIMIDE (DCC) OVERNIGHT GAVE FORMYGLYCINE 2,4,6 TRICHLOROPHENYL ESTER, M. 105-70DEGREES, WHICH WITH ETOH AQ. HCL 2.5 DAYS GAVE 62PERCENT GLYCINE 2,4,6 TRICHLOROPHENYL ESTER HCL, DECOMP. 210DEGREES. TREATING FORMYLGLUTAMIC ACID GAMMA BENZYL ESTER WITH DMF AND, AT MINUS 4DEGREES, WITH DCC, THEN II AND ET SUB3 N, AND KEEPING THE MIXT. 2 DAYS, GAVE 85PERCENT FORMYLGLUTAMYL (GAMMA BENZYLESTER) GLYCINE 2,4,6 TRICHLOROPHENYL ESTER, M. 110-12DEGREES, WHICH WITH AQ. ALC. HCL SEVERAL DAYS GAVE 61.5PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF GLUTAMYL (GAMMA BENZYL ESTER) GLYCINE HCL (III), M. 134-70DEGREES. IA (3.22 G) IN DMF TREATED WITH 4.5 G DCC, AND AT MINUS 50DEGREES WITH 6.4 G III AND 1.8 ML ET SUB3 N GAVE IN 2 DAYS 40PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF FORMYLHYDROXYPROLYL GLUTAMYL (GAMMA BENZYL ESTER) GLYCINE, AN OIL, WHICH WITH HCL IN AQ. MECH 2 DAYS GAVE 70PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF HYDROXY PROLYLGLUTAMYL (GAMMA BENZYL ESTER) GLYCINE HCL, AN OIL.

UNCLASSIFIED

PROCESSING DATE--13NOV70

UNCLASSIFIED

3/3 508  
CIRC ACCESSION NO--AP0131119  
ABSTRACT/EXTRACT--THIS IN ME SUB2 SO WITH ET SUB3 N 10 DAYS GAVE 90PERCENT  
POLY(TRIPEPTIDE) (OF HYDROXYPROLYLGLUTAMYL (GAMMA BENZYL ESTER) GLYCINE),  
A DARK SOLID, (ALPHA) SUBD PRIME27 MINUS 20.5DEGREES, MOL. WT. SIMILAR  
TO 85000. THIS HYDROGENATED OVER PD IN MECH TO POLY(HYP GLU GLY), WHOSE  
IR SPECTRUM INDICATED THE COLLAGEN TYPE STRUCTURE. TREATING  
CARBOBENZOXYSERINE WITH OCC IN DMF, FOLLOWED BY GLYCINE 2,4,6  
TRICHLOROPHENYL ESTER HBR AND ET SUB3 N GAVE IN 24 HR IN THE COLD  
80.5PERCENT 2,4,6 TRICHLOROPHENYL ESTER OF CARBOBENZOXYSERYLGLYCINE, M.  
124-6DEGREES, WHICH IN MECH WAS HYDROGENATED OVER PD TO THE 2,4,6  
TRICHLOROPHENYL ESTER OF SERYLGLYCINE, ISOLATED AS HCL SALT, DECOMPD.  
165-7DEGREES. SIMILARLY WERE OBTAINED: 80PERCENT 2,4,6 TRICHLOROPHENYL  
ESTER OF CARBOBENZOXY HYDROXYPROLYLSERYLGLYCINE, M. 153-4DEGREES; 2,4,6  
TRICHLOROPHENYL ESTER OF HYDROXYPROLYLSERYLGLYCINE HCL, M. 180DEGREES;  
AND POLY (HYP SER GLY) (ALPHA) SUBD PRIME27 MINUS 15.4DEGREES, WITH MOL.  
WT. 5500. FACILITY: INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

1/2 009  
UNCLASSIFIED  
TITLE--SYNTHESIS OF STRUCTURALLY REGULAR POLYPEPTIDES CONTAINING ALANINE  
AND N PRIME EPSILON BENZOXYCARBOXYLLYSINE -U-  
AUTHOR--(04)-POROSHIN, K.T., MARYASH, L.I., GRECHISHKO, V.S., SHIBNEV, V.A.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK TADZH. SSR 1970, 13(4), 19-21  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PEPTIDE, ALANINE, ORGANIC SYNTHESIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/1302  
CIRC ACCESSION NO--AT0128716  
UNCLASSIFIED  
PROCESSING DATE--13NOV70  
5

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 009  
CIRC ACCESSION NO--AT0128716  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. N PRIME EPSILON -TOSYL GROUP USED  
-EARLIER (CA68, 300130) WAS REPLACED BY AN N PRIME EPSILON  
-BENZOXYCARBONYL GROUP (CBZ), WHICH CAN BE REMOVED FROM THE PEPTIDE  
UNDER MORE GENTLE CONDITIONS. SYNTHESIS OF STARTING MONOMERS WAS  
CARRIED OUT BY THE METHOD OF MIXED ANHYDRIDES. FACILITY: INST.  
KHIM., DUSHANBE, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--USE OF VARIOUS ACTIVATED ESTERS IN THE SYNTHESIS OF REGULAR  
POLYPEPTIDES, AND THEIR COMPARATIVE EVALUATION -U-  
AUTHOR--(03)-SHIGNEV, V.A., CHUVAYEVA, T.P., POROSHIN, K.T.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 121P9

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ESTER, PEPTIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1986/1922

STEP NO--UR/0062/70/000/001/0121/0129

CIRC ACCESSION NO--AP0103649

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0103649

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SYNTHESIS OF POLYPEPTIDES WITH REGULAR CHAIN STRUCTURE, THE HIGHEST MOL. WTS. WERE OBTAINED VIA THE PENTACHLOROPHENYL ESTERS, FOLLOWED IN TURN BY: N, HYDROXYSUCCINIMIDYL, 2,4,5, TRICHLOROPHENYL, 2,4,6, TRICHLOROPHENYL, RHO, NITROPHENYL, 3, HYDROXYPYRIDYL, PENTAFLUOROPHENYL, AND 8, HYDROXYQUINOLYL ESTERS. HOWEVER OWING TO LOW SOLY. OF MANY POLYPEPTIDES WITH RELATIVELY LARGE MOL. WT., THE DESIRABILITY OF IMPROVED SOLY. DURING THE HANDLING MAKES 2,4,5, TRICHLOROPHENYL AND N, HYDROXYSUCCINIMIDYL ESTERS VALUABLE. THE REACTION WAS APPLIED TO THE INDICATED ESTERS OF HBR OR HCL SALTS OF GLYCYLPROLYLGLYCINE OR THE ANALOG OF GLYCYLHYDROXYPROLYLHYDROXYPROLINE, AS WELL AS THE GLYCYLPROLYLHYDROXYPROLINE ANALOG. THE REACTIONS WERE RUN IN ME SUB2 SO IN THE PRESENCE OF ET SUB3 N AT ROOM TEMP. SEVERAL DAYS. BY THIS METHOD THE PENTACHLOROPHENYL ESTER YIELDED POLYMERIC POLYPEPTIDES OF INDICATED MOL. WTS.: GLY-HYP-HYP OVER 15,000 AND REACHING 160,000; GLY-PRO-HYP 100,000; GLY-ALA-HYP OVER 25,000.

UNCLASSIFIED

1/3 018 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--SYNTHESIS OF POLY, GLYCL, SEPYL, HYDROXYPROLINE AND  
POLY, GLYCYL, SERYL, PROLINE POLYPEPTIDES USING PENTACHLOROPHENYL ESTERS  
AUTHOR--(04)-SHIBNEV, V.A., KHALIKOV, SH.KH., FINOGENOVA, M.P., POROSHIN,  
K.T.  
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 399-404

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHEMICAL SYNTHESIS, PEPTIDE, POLYMER, PROLINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0816

STEP NO--UR/0062/70/000/002/0399/0404

CIRC ACCESSION NO--AP0119722

UNCLASSIFIED



2/3 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119722

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. Z EQUALS CARBOBENZOXY THROUGHOUT. TO 5 G SERINE IN 25 ML SN NAOH WAS ADDED AT NEGATIVE 5 DEGREES OVER 1 HR 22.5 ML 2N NAOH AND 11.5 G Z, GLY, CL AT PH 8-9, AND THE MIXT. WARMED TO 5 DEGREES AND KEPT 40 MIN TO YIELD 48.5 PERCENT Z, GLY, SER (I), M. 98-101 DEGREES. Z, PRO IN ETOAC AT NEGATIVE 6 DEGREES WAS TREATED WITH DICYCLOHEXYLCARBODIIMIDE (DCC) AND C SUB6 CL SUB5 OH TO YIELD AFTER 1 DAY, FINALLY AT ROOM TEMP., Z, PRO, OC SUB6 CL SUB5, OIL, (ALPHA) PRIME 22.0 NEGATIVE 40.3 DEGREES, WHICH IN ACOH TREATED WITH 40 PERCENT HBR IN ACOH AT NEGATIVE 20 DEGREES 0.5 HR GAVE PRO, OC SUB6 CL SUB5, M. 112-14 DEGREES, WHICH WITH DCC IN DMF CONVERTED I IN 1 DAY, FINALLY AT ROOM TEMP., INTO 67.5 PERCENT Z, GLY, SER, PRO, OC SUB6 CL SUB5, M. 112-14 DEGREES, WHICH WAS HYDROGENATED OVER PD IN MECH, ETOH, HCL TO GLY, SER, PRO, OC SUB6 CL SUB5, HCL, M. 170 DEGREES; HBR IN MEND SUB2 IN 20 MIN SIMILARLY GAVE THE CORRESPONDING HBR SALT, M. 187-9 DEGREES. THE LATTER IN ME SUB2 SO WITH ET SUB3 N IN 7 DAYS IN A SEALED TUBE GAVE SOL. AND INSOL. PRODUCTS, IDENTIFIED AS POLY(GLY, SER, PRO), MOL. WT. UP TO 2500. Z, HYP IN THF WITH ISO, BUO SUB2 CCL AND ET SUB3 N, FOLLOWED BY C SUB6 CH SUB5 OH GAVE 89 PERCENT PENTACHLOROPHENYL ESTER, M. 162-4 DEGREES, WHICH WITH HBR IN MEND SUB2 AT NEGATIVE 5 DEGREES 20 MIN GAVE HYP, OC SUB6 CL SUB5, HBR (III, HBR), DECOMPO. 210 DEGREES.

UNCLASSIFIED

3/3 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119722

ABSTRACT/EXTRACT--I IN DMF WITH ET SUB3 N TREATED IN THE COLD WITH ISO, BUO  
SUB2 CCL, FOLLOWED BY II, GAVE OVERNIGHT 42PERCENT Z, GLY, SER, HYP, OC SUB6  
CL SUB5, M. 157-9DEGREES, WHICH IN CF SUB3 CO SUB2 H WITH HBR 0.5 HR  
GAVE GLY, SER, HYP, OC SUB6 CL SUB5. HBR DECOMPD. 178-80DEGREES, WHICH WITH  
ET SUB3 N IN ME SUB2 SO 5 DAYS GAVE POLY(GLY, SER, HYP), MOL. WT. IS  
SIMILAR TO 6000. FACILITY: INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 577.4

KARAGODOVA, YE. A., MITSMAKHER, YU. D., BOSIS, A. I., ~~SHIBRIK, L. V.~~

"An Algorithm for Optimal Distribution of Resources"

Vychisl. i prikl. mat. Mezhd. nauch. sb. (Computation and Applied Mathematics. Interdepartmental Scientific Collection), 1972, vyp. 16, pp 99-103 (from EZh-Kibernetika, No 7, Jul 72, Abstract No 7V516)

Translation: A version of the R. Bellman method is discussed for optimizing the distribution of limited resources of a specialized construction organization. The computation flow chart of the algorithm and an example are presented.

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--POTATGES AS AN IMPORTANT SOURCE OF THE VITAMIN C SUPPLY IN THE  
NORTH -U-  
AUTHOR--(02)-SHIBRYA, G.I., POTAPOV, F.F.  
COUNTRY OF INFO--USSR S  
SOURCE--VUPROSY PITANIYA, 1970, NR 3, PP 54-57  
DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEGETABLE CROP, ASCORBIC ACID, SOIL CHEMISTRY, CLIMATIC  
INFLUENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/0004

STEP NO--UR/0244/70/000/003/0054/0057

CIRC ACCESSION NO--AP0120704

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120704

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OUTCOME OF INVESTIGATIONS INTO THE VITAMIN C CONTENT IN TUBERS OF 47 REGIONAL POTATO VARIETIES CARRIED OVER A PERIOD OF MANY YEARS (1964-1967) IS REPORTED. THESE HELPED TO SINGLE OUT 12 POTATO VARIETIES WITH AN ANNUALLY RECURRENT HIGH VITAMIN C CONCENTRATION IN THE TUBERS. AN ELEVATED VITAMIN C LEVEL IN THE TUBERS INHERENT IN THESE POTATO VARIETIES PERSISTS WHEN THE LATTER ARE CULTIVATED IN AREAS WITH DIFFERENT SOIL AND CLIMATIC CONDITIONS. THESE FINDINGS AND THE DATA DERIVED FROM LITERATURE SOURCES PROMPT THE AUTHORS TO CONCLUDE THAT CULTIVATION OF POTATO VARIETIES RICH IN VITAMIN, SUCH AS FALENSKY, DRUZHBA, SEVERNAYA ROZA AND KORENEVSKY, IN THE AREAS OF NONCHERNOZEM ZONE LYING FARTHER NORTH (IVANOVSKAYA, GORKOVSKAYA, KIROVSKAYA AND OTHER REGIONS) AND SUPPLY OF SUCH POTATO VARIETIES TO NORTHERN AREAS WILL ENABLE THE VITAMIN C CONTENT IN THE DIET OF NORTHERNERS TO BE INCREASED. FACILITY: VSES. N-1 INSTITUT LEKARSTVENNYKH RASTENIY, MOSCOW.

UNCLASSIFIED

USSR

UDC 616.921.5:615.371.372

SHICHANIN, V. V. and ROGOZIN, A. P.

"Efficacy of Influenza Vaccine"

Moscow, Voenno-Meditsinskiy Zhurnal, No 11, 1973, p 47

Abstract: Influenza caused by the A<sub>2</sub>42/72 virus broke out in December 1972 and January 1973 in an army group which had been inoculated three times with A<sub>2</sub> vaccine the preceding two months. In mid-December a number of soldiers arrived from areas where they had not been vaccinated. The first influenza cases were reported a few days later among the newcomers and about a week thereafter in the main group. The sick rate was 424% and 151.5%, i.e., it was 2.8 times lower in those vaccinated. Moreover, the course of the disease was milder, the febrile period shorter, inflammatory phenomena less pronounced, and disability of briefer duration (4.21 versus 5.66 days in the nonvaccinated group).

1/1

USSR

UDC 619:576.858.5:636.22/.28

SHICHKINA, V. P., PILLE, E. R., and DZAGUROV, S. G., State Control Institute of Medical Biological Preparations imeni A. L. Tarasevich

"Susceptibility of Cattle to Adenoviruses"

Moscow, Veterinariya, No 11, 1971, pp 39-40

Abstract: A study was carried out of the susceptibility to adenoviruses of healthy cattle brought to a meat-packing plant where sera are prepared for use in culture media. Complement-fixing antibodies were found in the sera of 12.3% of the animals investigated. Most of the sera reacted to type-2 adenovirus. Cytopathic agents were found in 21 of 201 sera. In 13 strains a complement-fixing antigen common to human type-6 adenovirus was detected, and 10 of the 13 strains isolated were classified as type-1, 2, and 3 adenoviruses. The susceptibility of such a significant number of healthy cattle to serum viruses indicates a need to exercise careful control of animals intended for use in virological practice.

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USSR

UDC: 543.42.062

MIRONOV, V. A., FEDOROV, B. V., ~~SHCHIKOV, V. V.~~, YACHIN, V. M.

"Universal Spectral Analyzer for Liquid Media"

Optich. i Titrometrich. Analizatory Zhidk. Sred [Optical and Titrometric Analyzers for Liquid Media], Reports of All Union Conference, 1971, Part 1, Tbilisi, 1971, pp55-60 (translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 2, 1972, Abstract No 2.32.1093 by V. S. Krasnova)

Translation: The Special Design Bureau of the Weather Bureau, Academy of Sciences, USSR has developed an experimental model of a universal spectral analyzer (A) for liquid media for measurement of action spectra (characteristic and effective). The A includes a two-wave radiator with controlled output spectra, a thermostated cuvette with regulator and temperature measuring device, interchangeable converters and electronic measuring devices and a recording potentiometer. The outputs of both channels of the radiator produce spectra of equal power with an error of equalization relative to the maximum standard level of not over 5% in the 300-760  $m\mu$  wave range. The A allows curves of the change of electrical conductivity, partial oxygen pressure and photo-potentials to be measured as functions of wavelength of the incident radiation, radiation intensity, temperature and composition of liquid and gas media, surrounding the objects studied.

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USSR

SHIDISHKIS BONIS

"Intervals Such as Musical Symbols Transmitting Information Concerning the Natural Sequence of Sounds"

Mat. Metody v Sotsial'n. Naukakh. Vyp. 2 [Mathematical Methods in the Social Sciences. No 2 -- Collection of Works], Vil'nyus, 1973, pp 113-127 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V218)

Translation: The object of investigation of this work is the information processes involved in music. In the information processes in music, the sequence of musical symbols is very important: tones, intervals, harmonies. However, the task of this work is simpler: to show the capability of intervals to carry information on natural sound sequences. A games-theory approach is used to analyze the information process.

Author's view

1/1

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UDC 619.616.575.858.1

USSR

SHIDKOV, S. A., SERGEYEV, V. A., TRUBITSYN, B. I., and URVANTSEV, N. M.,  
All Union Scientific Research Institute of Veterinary Virology and Micro-  
biology

"Characteristics of a Cold Variant of Foot-and-Mouth Disease Virus (Type 0)"

Moscow, Veterinariya, No 10, Oct 71, pp 42-44

Abstract: An earlier study showed that passaging foot-and-mouth disease virus (type 0, strain Or-13) in a culture of calf kidney cells at 24°C resulted in its attenuation. Further study revealed that elevation of the temperature led to restoration of the lost properties, the sequence and intensity of which were determined by the temperature. Virus cultured at 30°C became pathogenic for mice and mildly pathogenic for guinea pigs and swine. It had no effect on cattle, could not be transmitted to calves by contact, and produced virtually no immunity. Virus cultured at 34°C became more pathogenic for guinea pigs and swine and caused atypical lesions on the oral mucosa, could be transmitted to cattle by contact but not to swine, and produced marked immunity in cattle and sheep. Virus grown at 37°C produced even stronger immunity and could be transmitted by contact

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UDC 619.616.575.858.1

USSR

SHIDKOV, S. A., SERGEYEV, V. A., TRUBITSYN, B. I., and URVANTSEV, N. M.,  
All Union Scientific Research Institute of Veterinary Virology and Micro-  
biology

"Characteristics of a Cold Variant of Foot-and-Mouth Disease Virus (Type O)"

Moscow, Veterinariya, No 10, Oct 71, pp 42-44

Abstract: An earlier study showed that passaging foot-and-mouth disease virus (type O, strain Or-13) in a culture of calf kidney cells at 24°C resulted in its attenuation. Further study revealed that elevation of the temperature led to restoration of the lost properties, the sequence and intensity of which were determined by the temperature. Virus cultured at 30°C became pathogenic for mice and mildly pathogenic for guinea pigs and swine. It had no effect on cattle, could not be transmitted to calves by contact, and produced virtually no immunity. Virus cultured at 34°C became more pathogenic for guinea pigs and swine and caused atypical lesions on the oral mucosa, could be transmitted to cattle by contact but not to swine, and produced marked immunity in cattle and sheep. Virus grown at 37°C produced even stronger immunity and could be transmitted by contact

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USSR

SHIDKOV, S. A., et al, Veterinariya, No 10, Oct 71, pp 42-44

to swine from vaccinated swine and calves. Virus grown at 39°C was able to replicate. The resistance of the cold variant to heating was not affected by elevation of temperature.

2/2

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USSR

UDC 536.46+662.222.1

GORBUNOV, V. V., SHIDLOVSKIY, A. A., Moscow

"Combustibility of Hydroxylamine and Hydrazine Salts"

Novosibirsk, Fizika Goreniya i Vzryva, No. 4, Dec. 70, p. 471-474.

Abstract: The significant exothermal nature of the thermal decomposition and combustion of  $\text{NH}_2\text{OH}$  and  $\text{N}_2\text{H}_4$  means that not only these salts, but their water and acid solutions can burn. A thermochemical evaluation of the decomposition of the chlorides and sulfates of  $\text{NH}_2\text{OH}$  and  $\text{N}_2\text{H}_4$  is presented. Conditions under which these compounds will burn are described. The leading reaction in the combustion of these salts is the exothermic decomposition of hydroxylamine or hydrazine. One of the main combustion products is ammonia, which forms salts-chlorides or sulfates. There is no gaseous hydrogen in the combustion products.

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1/2 034 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--INFLUENCE OF SOME ADDITIVES ON THE CRITICAL, PARTICLE DIAMETER AND  
RATE OF COMBUSTION OF MIXTURES OF ALUMINUM WITH GELLED WATER --U--  
AUTHOR--(03)-VASILYEV, A.V., GORBUNOV, V.V., SHILOVSKIY, A.A. S

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(3),  
318-21  
DATE PUBLISHED-----70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--GEL, AQUEOUS SOLUTION, NICHROME ALLOY, CELLULOSE, COMBUSTION  
RATE, ALUMINUM, ALUMINUM FLUORIDE, LITHIUM FLUORIDE, POTASSIUM COMPOUND,  
SODIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3008/0601

STEP NO--UR/0153/70/013/003/0318/0321

CIRC ACCESSION NO--AT0137686

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 034  
CIRC ACCESSION NO--AT0137686  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF 1-5PERCENT LIF, NAF,  
KF, OR ALF SUB3 TO A MIXT. OF POWD. AL (L MU AV. PARTICLE SIZE) AND A  
STOICHIOMETRIC AMT. OF H SUB2 O GELLED WITH 3PERCENT NA CM-CELLULOSE,  
INCREASES THE INFLAMMABILITY OF THE MIXT. WHEN SUBJECTED TO A HEATED  
NICHROME SPIRAL, AS INDICATED BY VELOCITY AND TIME OF BURNING, AND CRIT.  
SIZE OF COMBUSTIBLE AGGREGATES. THE READILY SOL. NAF AND KF ARE MORE  
EFFECTIVE THAN LIF AND ALF SUB3. AN INCREASE IN PH OF NAF AND KF SOLNS.  
WHEN MIXED WITH SUSPENDED AL(OH)SUB3 SHOWS THAT THESE SALTS AFFECT THE  
FLAMMABILITY OF AL BY DESTROYING AN OXIDE FILM. FACILITY: MOSK.  
INST. KHIM. MASHINOSTR., MOSCOW, USSR.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--PROPERTIES OF CRYSTALLINE AMMONIUM NITRITE -U-

AUTHOR--(04)-SHIDLOVSKIY, A.A., POPOVICH, A.S., SHMAGIN, L.F., ROGOZHNIKOV,  
V.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. LENINGRAD 1970, 43(2), 434-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS, ORDNANCE

TOPIC TAGS--AMMONIUM NITRITE, COMBUSTION RATE, DETONATION, EXPLOSIVE  
PROPERTY, THERMAL SHOCK

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/0724

STEP NO--UR/0080/70/043/002/0434/0436

CIRC ACCESSION NO--AP0119631

UNCLASSIFIED



2/2 037

UNCLASSIFIED

PROCESSING DATE--23OCT7C

CIRC ACCESSION NO--AP0119631

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. D., LOSS OF WT. ON STORAGE, FLASH POINT, SENSITIVITY TO SHOCK AND FRICTION, RATE AND CRIT. DIAM. OF COMBUSTION AT ATM. PRESSURE, AND EFFECT ON COMBUSTION RATE OF NH SUB4 NO SUB2 AFTER ADDN. OF VARIOUS SUBSTANCES WERE STUDIED ALONG WITH EXPLOSIVE PROPERTIES, SUCH AS THE RATE OF CRIT. DIAM. OF DETONATION. CRYST. NH SUB4 NO SUB2 IS AN EXPLOSIVE SUBSTANCE OF AV. FORCE (ON THE ORDER OF TETRYL), BUT ITS PRACTICAL USE IS HARDLY POSSIBLE DUE TO ITS POOR CHEM. STABILITY AND ITS HIGH SENSITIVITY TO MEHC. AND THERMAL SHOCK.  
FACILITY: MOSK. INST. KHIM. MASHINOSTR., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 662.220

VASIL'YEV, A. V., GORBUNOV, V. V. and SHIDLOVSKIY, A. A., Moscow Chemical Machine Building Institute, Moscow, Ministry of Higher Education USSR

"The Effect of Certain Additives on the Critical Diameter and the Rate of Combustion of Aluminum - Gelatinized Water Mixtures"

Ivanovo, Khimiya i Khimicheskaya Tekhnologiya, Vol XIII, No 3, 70, pp 318-321

Abstract: The authors studied the effect of addition of 1 - 5% of Li, Na, K, and Al fluorides to a standard mixture of Al  $\left[ \text{Al} + \text{H}_2\text{O} \right]_{\text{stoich}}$  as a means of overcoming the retardation of ignition and combustion caused by the presence of a stable oxide film on the Al particles. All of these additives improved inflammability and reduced critical diameter of combustion at atmospheric pressure, the highly soluble NaF and KF being the most effective. From the significant increase in pH of aqueous NaF and KF upon the addition of an  $\text{Al}(\text{OH})_3$  suspension, it is assumed that the improvements noted are the result of intensive disruption of the oxide film by the hot solutions.

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SHIDLOVSKIY A.A.

UNCLASSIFIED  
TITLE--MASS SPECTROMETRIC INVESTIGATIONS OF IONIC AND NEUTRAL COMPOSITION  
OF THE UPPER ATMOSPHERE BY MEANS OF M12 ROCKETS -U-  
AUTHOR--ZHLODKO, A.G., POLOSKOV, S.M., POKHONKOV, A.A., TESLENKO, V.P.,  
SHIDLOVSKIY, A.A.  
COUNTRY OF INFO--USSR

PROCESSING DATE--17 JUL 70

SOURCE--METEOROLOGIIYA I GIDROLOGIIYA, 1970, NR 3, PP 72-82

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, MISSILE TECHNOLOGY

TOPIC TAGS--MASS SPECTROMETER, UPPER ATMOSPHERE, METEOROLOGIC ROCKET, GAS  
COMPOSITION ANALYZER/(U)M12 METEOROLOGIC ROCKET

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PRECEDENCE REEL/FRAME--1977/0162

STEP NO--UR/C05C/70/000/003/0072/0082

CITE ACCESSION NO--AP00000000

Acc. Nr: **AP0043756**

Ref. Code: UR 0050

PRIMARY SOURCE: *Meteorologiya i Gidrologiya*, 1970, Nr 3,  
pp 72-82

MASS SPECTROMETRIC INVESTIGATIONS OF IONIC AND NEUTRAL  
COMPOSITION OF THE UPPER ATMOSPHERE BY MEANS OF MR-12 ROCKETS  
A. D. Zhuravko, S. M. Poloskov, A. A. Pokhunkov, V. P. Teslenko,  
Shidlovskiy, A. A.; Ivanov, Yu. F.

Some research technique problems of gas composition of the Earth's upper atmosphere are considered, results of the investigation of the neutral and ionic composition at the heights of 100-180 km are given.

111  
REF/FRAME  
1970162